AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 4. In amended Fig. 4, the arrows indicating the direction of the electroosmostic and convective flow have been removed. As discussed in the interview held June 16, 2008, the arrows were in error as being shown only in one direction, rather than being bi-directional as per the embodiments disclosed in the specification. Applicant further notes that the relative potentials are indicated in the figure and that the flow of charged particles is governed by the laws of physics. Thus, removal of the arrows is a correction of an obvious error and not new matter.

Attachment: Replacement sheet

REMARKS

Claims 1-3, 5-11,12, and 13-25 were rejected under 35 U.S.C.112, first paragraph, as failing to comply with the enablement requirement. Claims 1-3, 5-11, 12, and 13-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, the claims were rejected because "fluid flow" is allegedly broader than "convective flow" and only convective flow is supported by the specification. Additionally, the claims were rejected for the reasons of record in the office action of August 31, 2007:

> The disclosure is not enabling because (1) it is inconsistent, if not contradictory, on how convective flow is to be generated, (2) it uses "convective flow" to refer to an unclear phenomenon that is something other than what is ordinarily understood by the term, and (3) contrary to what is suggested by the specification, counteractive chromatography, which appears to be the name for this technique of using electroosmosis to create a convective flow, is not well-known in the art. (Office action of 8/31/07, p.3, l.9-14)

Applicant respectfully traverses this rejection.

Independent claims 1, 11, 19, and 22 have been amended to replace "fluid flow' with "convective flow." Support for this amendment can be found in the previously presented claims. Thus, the rationale for rejecting claims 1, 11, 19, and 22 for "fluid flow" being broader than "convective flow" is moot. Regarding, the rationales stated in the office action of August 31, 2007, Applicants traverse for the following reasons:

As discussed in the interview held June 16, 2008, the lines indicating the flow in Fig. 4 were in error as being shown only in one direction, rather than being bi-directional as per the embodiments disclosed in the specification. The relative potentials, however, are clearly illustrated in Fig. 4. Further, Applicants submits that the actual flow of charged particles under the influence of the potential gradient and the resulting fluid flows are governed by the laws of physics. Just

because the lines indicating the uni-directional flow in Fig. 4 were in error, contrary to the laws of physics, the laws of physics still control the flow of the fluid in the microchannels of the device shown in Fig. 4. In short, the incorrect flow lines in Fig. 4 are an obvious error. "An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, by also the appropriate correction." *In re Oda*, 443 F.2d 1200, 170 USPQ 260 (CCPA 1971). This obvious error has been recognized by the Examiner and would have been well understood by persons of ordinary skill in the art. Thus, the embodiment illustrated in revised Fig. 4 (arrows shown in both directions) is fully supported (as explained below) and would have been understood by one of ordinary skill in the art at the time of the invention. The flow could be in either direction as shown in amended Fig. 4 depending on the potential and the sign (positive or negative) of the charged particles.

As discussed previously, the microchannels of the device have charged walls (stationary charges) which attract ions/charged molecules in solution. In one mode of operation, a potential is established between an electrode in reservoir 114 and an electrode in reservoir 116. Due to this potential, charged molecules flow (dragging fluid) from reservoir 114 through microchannel 120, through microchannel 122, to reservoir 116. If microchannel 122 is coated with a coating that suppresses electroosmosis, there will be a *positive pressure at the "T" junction* 124 which results in some fluid flowing toward reservoir 112. That is, in the first embodiment, convective flow is generated toward reservoir 112.

Applicant also notes, consistent with the explanation in paragraphs [0024] and [0025], in a second mode a negative potential can be generated at the "T." In the second embodiment, microchannel 120 is coated with an electroosmotic suppressant. As in the above embodiment, a

potential is setup between reservoirs 114 and 116 drawing fluid from reservoir 114 to reservoir 116. In this embodiment, flow in "pipe" 122 is greater than flow in "pipe" 114. Thus, the fluid "drains" into reservoir 116 faster than it can be supplied from reservoir 114. Therefore, there is an induced convective fluid flow from reservoir 112 through "pipe" 118 toward reservoir 116. Basically, the *negative pressure at "T" junction* 124 sucks fluid from reservoir 112 toward reservoir 116.

Claims 1-25 are commensurate in scope with the embodiments illustrated in Fig.4. Further, as discussed above, the actual operation of the device is governed by the laws of physics. Thus, the claimed invention satisfies the written description requirement of section 112. Further, Applicant submits that one of ordinary skill in the art viewing Fig. 4, would be enabled to make and use the embodiments illustrated in Fig. 4 and claimed in claims 1-25. Applicant therefore respectfully requests withdrawal of the rejection.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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